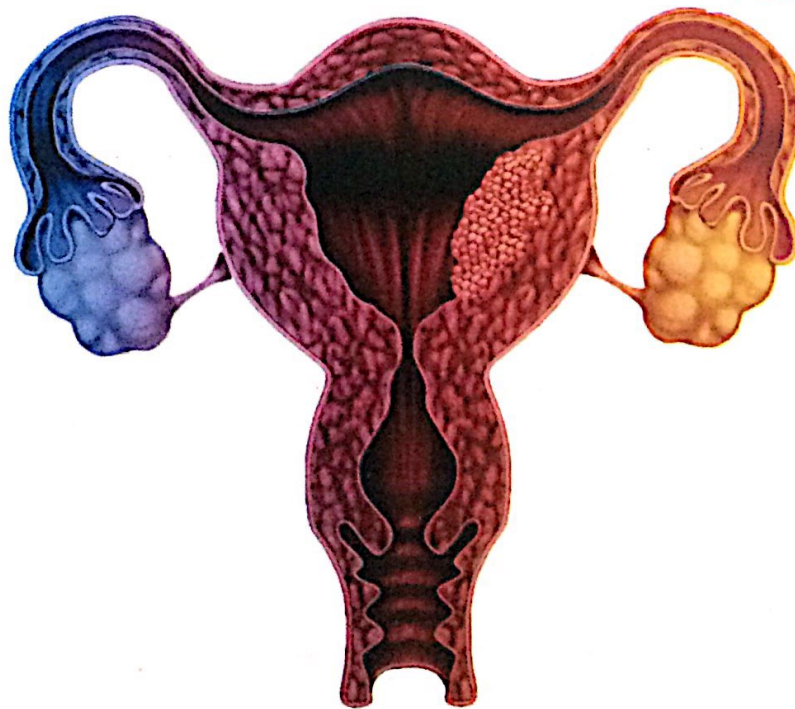


Easy Pathology

== Dr. Abdelrahman Khalifa ==

Female & Breast

Part 1



Ain Shams 2017 - 2018

VISIT...

LANZAROTE
Caliente.COM

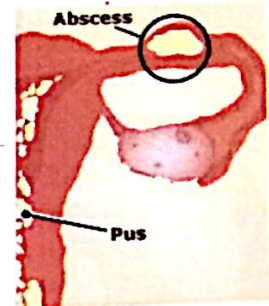
Pelvic inflammatory disease (PID)

Ascending infection from vulva, or vagina to the entire Genital tract

Aetiology: Lower genital tract Infection, commonly Post partum

- **Pyogenic** bacteria (gonococci, staph, strept)
- Chlamydia

Complications: Salpingitis – Pyosalpinx – Tubo-ovarian abscess – Oophoritis – **Pertitonitis** & fibrous adhesions → intestinal obstruction - Blood spread



Cervicitis

Aetiology: Lower genital tract Infection, commonly Post partum

- **Chlamydia** 40%
- Others: staph, strept, gonococci, Candida, Trichomonus, HPV, HSV-2

P.F.: Post partum – IUD – low immunity (low)

Acute Cervicitis:

Bacterial. **catarrhal** → then **Suppurative**

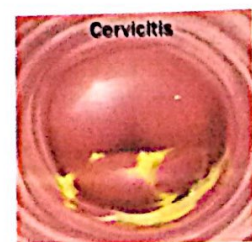
Chronic Cervicitis:

- **Gross:** swollen + **granular** + (nabothian cysts)

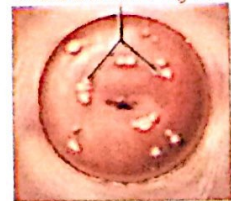
- **Micro:**

d.t. chronic inf. → **Squamous metaplasia** → endocervix

- chronic inf. cells + fibrosis + endocervical glands (nabothian cysts)



Nabothian Cysts



Endocervical polyp

	Endocervical polyp
Aetiology	Chronic Cervicitis + trauma → أضرار/إصابات
Gross	Sessile or pedunculated - soft
Micro	Core: fibrovascular + inflammation + distended glands (columnar or sq. metaplasia)
Complications	Postcoital → rupture → bleeding , leucorrhea sexual intercourse بعد



Condyloma of Cervix

- **Flat condyloma**: hyperplasia caused by **HPV 6, 11** → mild atypia, **HPV 16, 18** → high grade

- **Condyloma acuminatum**: Large **branched** Squamous cell papilloma

Cervic intraepithelial Neoplasia CIN

Aetiology: HPV 16, 18 → E6 & E7 proteins → suppress P53, RB

- Multi-sexual partners
- Early age of sexual intercourse
- Male partner of high risk
- Smoking + low immunity

Site: Transformation zone is the most common

Diagnosis: Requires Colposcopy with **Schiller's test:**



- Staining the suspected area with **iodine**
- The area of **CIN**: **Not accepting** stain
- **Inflamed** mucosa are also not accepting the iodine stain



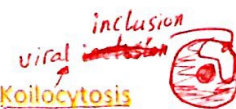
Acetic acid 5% test → affected area is **Mosaic** (abnormal punctuations)

Exfoliative cytology → using **PAP smear** (**the most accurate screening**)

Biopsy → **Punch - Curettage**

Microscopic:

- **CIN I**: Dysplasia the **lower 1/3** of epithelium + superficial **Koilocytosis**
- **CIN II**: Dysplasia **lower 2/3** of epithelium + superficial **Koilocytosis**
- **CIN III** Severe Dysplasia: complete loss of maturation (disordered orientation) in **all layers** + mitoses. **No Koilocytosis**



Fate:

- (CIN I): **60% regress**, **30% persist**, **10% progress**
- (CIN II, III): **30% regress**, **60% persist**, **10% progress to invasive carcinoma**

Carcinoma of the cervix

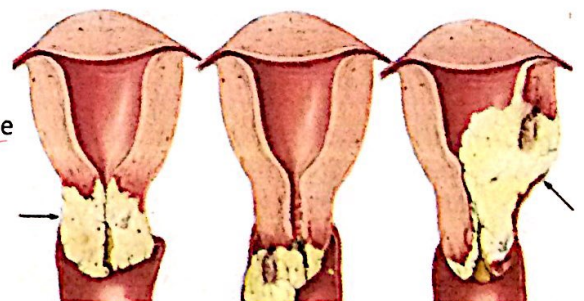
Incidence: > 40 years

P.L.: (CIN) after 10 – 15 years

Gross: **Fungating mass** – **Malignant ulcer** – **Diffuse infiltrative**

Micro:

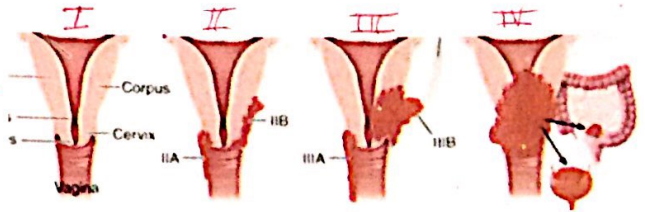
- **Sq. C. C. (75%)**
- **Adenocarcinoma**



- Adeno-squamous carcinoma
- Small cell carcinoma

Complications:

- Obstruction & 2ry infection → **Pyometria** (منعزل مبيضي)
- **Bleeding** (abnormal)
- **Fistula** (vaginal, and rectal)
- **Spread** (Direct → ureteric obstruction → renal failure, Blood → LBLB)



Staging: **stage 0:** (insitu) **stage I:** (confined to cervix) **stage II:** (upper part of vagina) **stage III:** (pelvic wall – lower vagina) **stage IV:** (Local invasion of other organs or distant)

**Menstrual cycle**

ovulation
15 d.

	Menstrual bleeding	Proliferative	Secretory
Duration	1-4 d	4-14	17-28
Ovary	Regressed corpus leuteum	Graffian follicle (granulosa cells)	After ovulation → corpus leuteum (leutinizied granulosa)
Hormones	Low hormonal levels	estrogen from	Progesteron from
Endometrium	Necrosis & shedding of superficial layer	Uniform glands – lined by columnar cells – stroma is spindle cells	Dilated tortuous glands – Lined by vacuolated cells – Stroma is formed of rounded vacuolated cells Neutrophils (2 days before bleeding)

Acute Suppurative endometritis

(Puerperal sepsis)

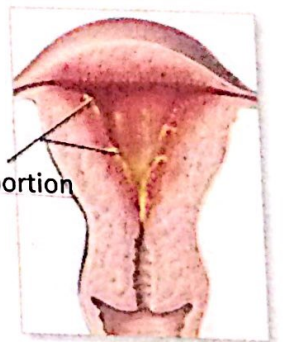
حمى النفاس

Aetiology: Pyogenic bacteria (exogenous or endogenous) + Following labour or abortion

Gross: enlarged uterus (sub-involuting), soft

Micro: Suppurative inflammation + endometrial necrosis + myometrial abscess

Complications: Pain + Fever + Pus, complications of PID

**Chronic endometritis**

منهون بطانة الرحم

- **Non specific:** following acute (Post-partum) or Senile (post-menopausal)
- **Specific:** TB (2ry) - Actinomycosis (common with IUD)

Adenomyosis

Presence of normal endometrial glands and stroma inside myometrium

Aetiology: Exact pathogenesis is unknown, but thought to be excess proliferation of basal layer

Gross: large uterus - thick wall - hemorrhagic brown spots

Micro: normal endometrial glands + endometrial stroma deep inside myometrium

Complications: Dysmenorrhea - Pelvic pain - infertility in severe cases



Endometriosis

Presence of normal endometrial glands and stroma outside the uterus

Sites: Tubes - ovary - ligament - pouches - peritoneal - appendix - Laparotomy scar - LN

Pathogenesis: (theories)

- Tubal regurgitation theory (regurgitation of endometrial tissue into outside)
- Metaplastic theory (metaplasia of ovarian epithelium or mesothelium)
- Vascular dissemination theory (migration of Endometrium through blood)

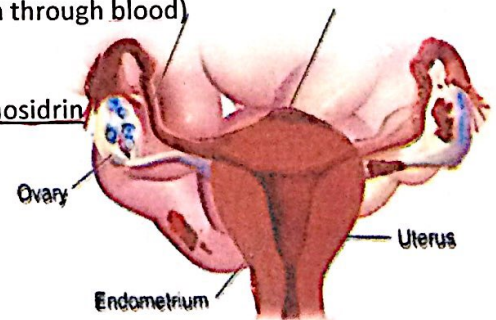
Gross: Red brown cysts

Micro: 2 of 3 must be found: endometrial glands - stroma - hemorrhagic

Complications:

- Similar to adenomyosis (?) bleeding, Pain

- Chocolate cyst of ovaries



Endometrial hyperplasia

Proliferation of endometrial glands leading to increased gland > stroma

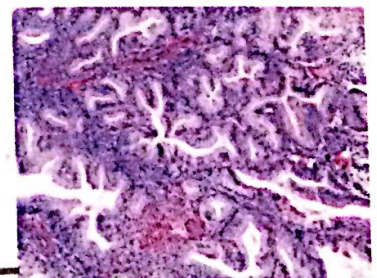
Causes: Excess Estrogen

(anovulation - polycystic ovary - ovarian & adrenal cortical tumor - Obesity - Exogenous)

Gross: Diffuse thickening - polypoid

Micro

- Simple endometrial hyperplasia
 - proliferated glands, columnar epithelium
 - Cystic dilatation (swiss-cheese)
 - Dense cellular stroma
- Complex hyperplasia
 - Crowded glands, infoldings
 - lined with more than one layer, Papillary projection



- Dense cellular stroma

Atypical hyperplasia → precancerous

Complications: Abnormal bleeding - malignant transformation (Atypical hyperplasia)

Tumors of the uterus :

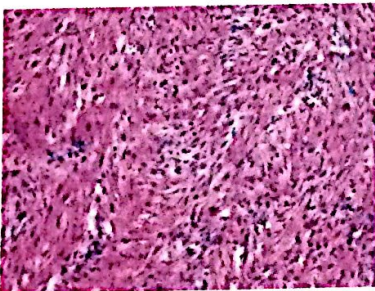
- **Benign :** Leiomyoma - Endometrial polyp
- **Malignant:** Carcinoma - Sarcomas (Leiomyosarcoma - MMM-Stromal sarcoma)

20-40 years → hormonal dependant

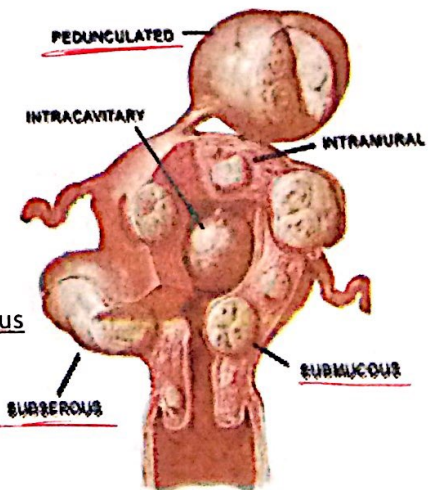
Gross:

- **Sites:** submucous - mural interstitial - subserous
- **Size:** variable (1cm - 10 cm)
- **Shape:**
 - Rounded, single or multiple
 - May acquire pedicle
 - **Parasitic tumor**: Expand to get blood supply from nearby tissue
- **Capsule:** false capsulated (formed of compressed atrophic tissue)
- **C/S:** Whorly, grayish white

Micro:



- **Interlacing bundles of**
 - **Smooth muscle cells:** spindle, acidophilic, cigar shaped nucleus
 - **Collagen bundles**
- **2ry changes** → Hyalinosis - Calcification - Cystic changes



Fate & complications: A B C D E

- **Asymptomatic** → Regression after menopause (hormone-dependant)
- **Abortion or Infertility**
- **Bleeding** (menorrhagia)
- **Compression** → Bladder obstruction
- **Degeneration** (red degeneration): with pregnancy → occluded veins → Large, congested, & necrotic → death of baby
- **Extremely rare Malignant transformation** to Leiomyosarcoma

Endometrial polyp = Benign tumor

- Polypoid mass from endometrium
- Sessile or large pedunculated
- Bleeding – rare malignant transformation

Uterine Sarcomas

- Leiomyosarcoma
 - Denovo. Not related to Leiomyoma. Old Age
 - Large, Fleshy
 - Similar to leiomyoma but: Frequent mitoses – necrosis - anaplasia
- Stromal sarcoma (cellular)
- Malignant mixed mesodermal tumor (3M) or Carcino-sarcoma of old age
(Malignant glands + malignant stromal cells)

Endometrial Carcinoma

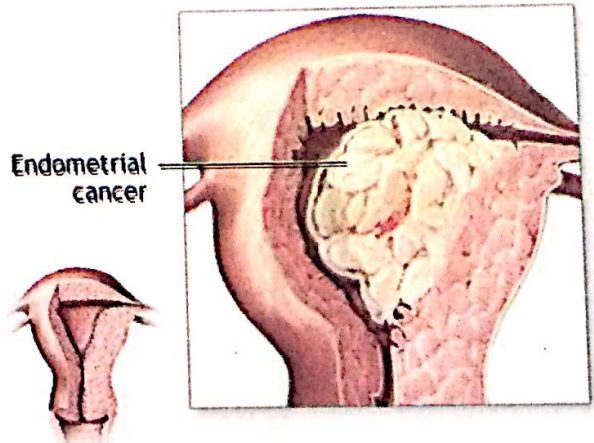
Incidence: the most common malignant of female genital, age > 50 years

P.F.:

- Excess estrogen (endogenous or exogenous)
- Infertility & nullipara → التي لم تنجب
- Obesity, hypertension, DM
- P.L.: Atypical endometrial hyperplasia

Gross:

- Size of uterus: enlarged
- Shape: assymetrical
- Polypoid mass – or Diffuse infiltrative

Micro:

<u>Endometrioid</u> 80%	<u>Serous type</u>
Excess <u>estrogen</u> - defective DNA repair genes P.L. Endometrial <u>hyperplasia</u>	Mutation of <u>P53</u> P.L. Endometrial <u>polyp</u>
<u>Adenocarcinoma</u> (glands similar to endometrial glands) grade I – II – III may show <u>mucoic</u> - <u>Adenoacanthoma</u> – <u>Adenosquamous</u> carcinoma <i>glands lined by sq. epith</i>	Small branched <u>papillae</u> <i>secrete serous fluid</i>
<u>Better prognosis</u>	<u>Highly aggressive</u>

Gestational Trophoblastic diseases:

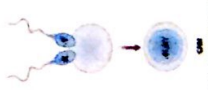
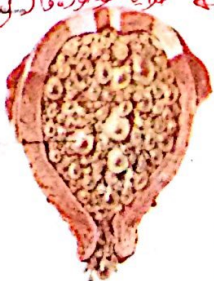
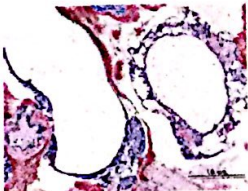
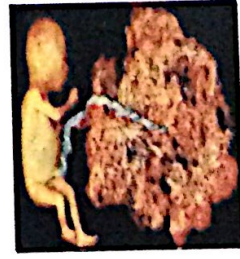
Abnormal proliferation of trophoblasts

Level of **HCG** is abnormal high

حل عنقودي

كانها طبل

-Hydatiform (vesicular) mole → benign**-Invasive mole** → Locally malignant**-Choriocarcinoma** → Malignant**Hydatiform mole (vesicular mole)**Swollen cystically dilated (vesicular) chorionic villi, giving grape-like structure

	Complete mole	Partial mole
Aetiology & pathogenesis	Fertilization of <u>empty ova</u> by <u>2 sperms</u> → <u>46</u> chromosome (diploid) but <u>paternal</u> → <u>placental proliferation without fetus</u> 	Fertilization of <u>normal ova</u> by <u>2 sperms</u> → <u>69</u> chromosome (triploid) but <u>mixed</u> → <u>placental proliferation with fetal parts</u> 
Gross	Placenta: <u>completely vesicular</u> (grape-like) Uterus: <u>larger than expected date</u> Ovary: <u>theca leutin cyst (due to high hCG)</u>  	Placenta: <u>partially vesicular</u> Uterus: <u>Smaller than complete mole</u> Ovary: <u>theca leutin cyst may be found</u> 
Micro	Chorionic villi: <u>all</u> are <u>edematous</u> Trophoblast: <u>proliferated (hyperplastic)</u> <u>Atypia</u> may be found Fetal parts: <u>absent</u>	Chorionic villi: <u>some</u> are <u>edematous</u> Trophoblast: <u>proliferated</u> Fetal parts: <u>present</u> with nucleated <u>fetal RBCs</u>
Complications	<u>Bleeding in 3rd month</u> <u>High HCG</u> <u>Invasive mole (10%)</u> <u>Choriocarcinoma (2%)</u> <i>abortion</i>	<u>Bleeding</u> <u>Mild elevation in HCG</u> <u>Invasive mole & carcinoma (rare)</u> <i>لأنه غير طبيعي</i>

Invasive Mole: Locally malignant → perforates uterine wall, Bleeding, Abortion
No metastasis

Choriocarcinoma

P.F.: on top of vesicular mole (50%), or during pregnancy. Gonadal type (testis & ovary)

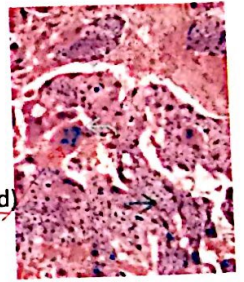
Gross: Red soft fleshy mass (extensive N/H)

Micro: *ميكروسكوب*

Highly anaplastic cytotrophoblasts (Rounded cells) + syncytiotrophoblasts (multineucleated) extensive N/H . (no chorionic villi)

Complication: Local & blood metastasis + high hCG level

Prognosis: 100% cured with chemotherapy



Ovarian cysts

• Non neoplastic

○ Follicular cyst

- Anovulatory cycle
- Single or multiple (< 6 cm) → degenerated (contain serous fluid)
- micro: Lined with granulosa cells + theca → estrogen

○ Polycystic ovary (PCO)

- Thick ovarian capsule and stroma → Repeated anovulatory cycles → Stein-Leventhal syndrome
 - Short, obese
 - Hirsutism, amenorrhea or oligomenorrhea, infertility
- Multiple, bilateral small (<2cm). Thick ovarian capsule
- micro: Lined granulosa cells and proliferated theca cells → high estrogen & androgen. *No corpus luteum. No corpus albicans*

○ Corpus luteum cyst

- In menstruation or pregnancy
- Single yellow (<6 cm)
- Lined with luteinized granulosa cells → progesteron

○ Theca lutein cyst

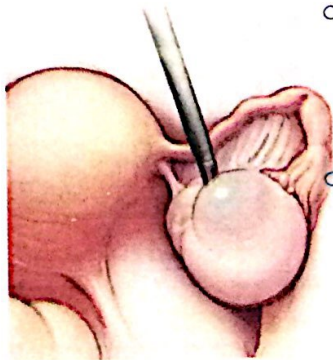
- Excess HCG (trophoblastic tumors, or therapeutic)
- Multiple
- Lined with luteinized proliferated theca cells

○ Chocolate cyst

- Endometriosis of the ovary
- Red or brown, contains endometrial glands, stroma, hemosiderin
- Surrounded by thick fibrotic capsules → fibrous adhesions

• Neoplastic

- Dermoid cyst
- Serous & mucinous cysts
- Cystic changes in malignant tumors

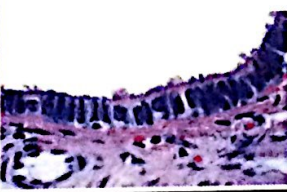
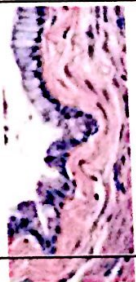


Ovarian Tumors

- 1ry
 - **Surface epithelial** (Serous – Mucinous – Endometrioid – Clear cell – Brenner)
 - **Sex Cord** (Granulosa – Thecoma – Sertoli – Leyding) pure or mixed
 - **Germ** (Dysgerminoma – Teratoma - 'yolk sac' – Embryonal carc – Choriocarcinoma)
 - **Others:** e.g. **Fibroma** (Large & compressing lymphatics. Associated with ascitis & hydrothorax) **Meigs syndrome**
- 2ry Metastatic (**Krukenberg**)
 - Metastasis from GIT or breast
 - **Bilateral** multinodular
 - Microscopic: **signet ring** carcinoma + hypercellular stroma

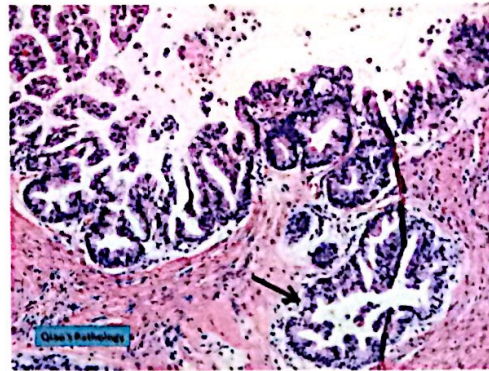
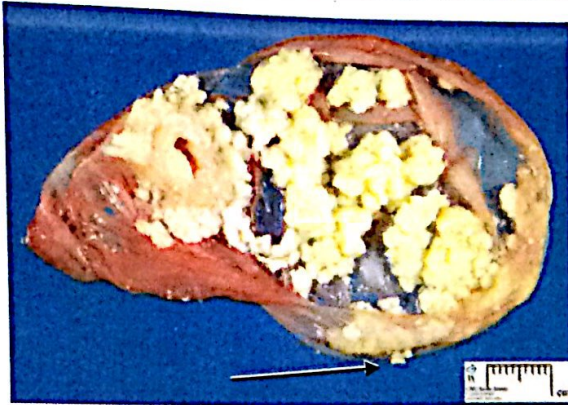
1-Surface epithelial tumors 60%

Origin: mesothelial covering. P.F.: **BRCA** 1,2 mutation (familial) , Nullipara

	Serous cystadenoma	Mucinous cystadenoma
Incidence	The most common 1ry tumor	2 nd common ovarian tumor
Gross	Size: variable .up to 15 cm Sape: Rounded, oval C/S: uni-loculated or multi-loculated I in large size, serous fluid, thin papillae Capsule: smooth	larger than serous Rounded, oval More Multiloculated , contain mucin Smooth
Micro	<u>Cystically dilated</u> glands, separated <u>by fibrous stroma</u> , & lined with <u>columnar epithelium</u> (partially ciliated). <u>Thin papillae</u> inside glands with fibrovascular core.	<u>Cystically dilated</u> glands, separated <u>by fibrous stroma</u> , & lined with <u>columnar epithelium</u> (mucous secreting & may show <u>vacuoles</u> , or <u>goblet cells</u>). Endocervical or intestinal type
	 	 
Borderline tumor	Microscopic Atypia (15 % are borderline)	Microscopic Atypia (10 %)
Malignant transformation	Gross: N/H + rough capsule + solid areas Micro: adenocarcinoma + Invasion (capsular, stromal, or vascular) Psammoma bodies in tip of papillae	Gross: N/H + rough capsule + solid areas Micro: adenocarcinoma + Invasion (capsular, stromal, or vascular)

25 % are malignant

10 % are malignant

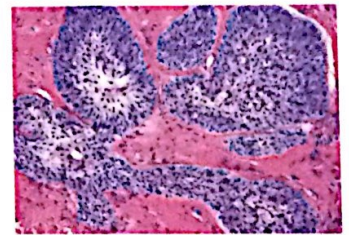


Endometrioid Tumors

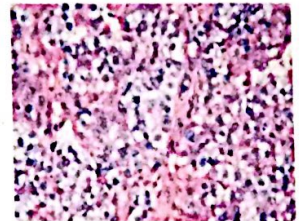
- **Benign**, borderline, or **malignant**
- Most of them are malignant similar to endometrioid adenocarcinoma (?)

Brenner tumor

- Rare. Firm Solid grey mass. Size (up to 20 cm)
- Formed of **B**ladder-like transitional epithelial mass, sroma
- Most of them are **B**enign



Clear cell tumor Solid sheets or glands formed of malignant clear cell

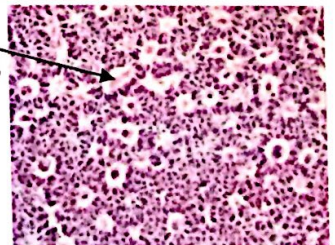


2-Sex-cord stromal tumors

Gross: Mostly unilateral, Mostly Solid, Mostly yellowish, variable in size

Micro:

- **Granulosa :**
 - cuboidal cells forming solid masses (trabecular or compact) or diffuse or microfollicular . around acidphilic material call exner bodies)
 - Secrete **estrogen** → precocious puberty , endometrial hyperplasia, mammary hyperplasia, endometrial carcinoma
 - Mostly **benign**, malignant in 25% with good prognosis
- **Thecoma:** (plump vaculated theca cells + collagen stroma)
- **Sertoli** (tubules lined by clear cells)
- **Leyding** (Solid sheets of eosinophilic cells , vaculated) → Androgen (Musculinization & Hirsutism)



3-Germ cell tumors

Dysgerminoma

- Large, solid, grey. No N/H . Similar to testicular seminoma (describe)

Yolk sac tumor (Endodermal Sinus)

Large, grey, areas of N/H .

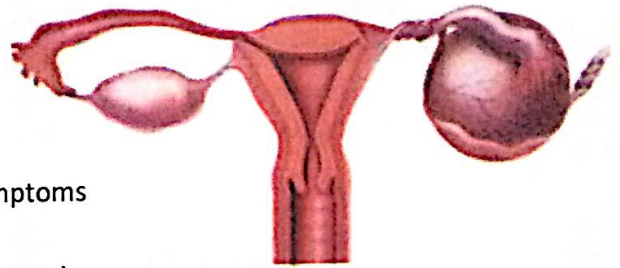
Forming microcysts of flat or cuboidal cells + **Shiller duval bodies** (central vessel, surrounded by space lined by malignant cells) . +ve **AFP**

Embryonal carcinoma

- Large, grey, areas of N/H .
Solid sheets or **glandular structure** of large malignant cells. Usually mixed with yolk sac or chorio.

C/P and complications of ovarian tumors:

- Asymptomatic
- Pressure →
 - **intestinal** symptoms , or **urinary** symptoms
 - **ovary** → Sterility
 - **Lymphatic** obstruction (**Meig's** syndrome)
- Torsion → ovarian **infarction** & Ruptured cyst →
 - **bleeding** (Shock)
 - pseudomyxoma peritonei (in mucinous borderline or malignant type)
- Malignant transformation → spread - Cachexia
- Hormonal effects (?)



Tumor markers:

CA-125 : Epithelial tumors

CEA: Mucinous tumors

HCG: Choriocarcinoma

Inhibin: Granulosa

AFP: Yolk sac

1. A 43-year-old woman has noted mild vaginal bleeding for the past 5 weeks. On pelvic examination, there is a 0.7cm polypoid mass noted to extend into the vagina. The ectocervix appears normal. The adnexae have no palpable masses. Which of the following pathologic findings is most likely to be found on microscopic examination of this lesion?

- a. Endometrioid adenocarcinoma
- b. Clear cell adenocarcinoma
- c. Endometrial hyperplasia
- d. Sarcoma botryoides
- e. Endocervical polyp

2. A 48-year-old woman has noted a small amount of irregular vaginal bleeding for the past 2 months. Endometrial biopsy revealed endometrial hyperplasia. An abdominal ultrasound revealed a solid right ovarian mass. Which of the following neoplasms, this woman is most likely to have?

- a. Thecoma
- b. Choriocarcinoma
- c. Sertoli-Leydig cell tumour
- d. Krukenberg tumour
- e. Cystadenocarcinoma

3. A 36-year-old woman has had episodes of lower abdominal and pelvic pain for the past 10 years. Laparoscopy, revealed 0.2 to 0.5cm brown lesions located over the serosal surfaces of the uterus, fallopian tubes, and appendix. Which of the following microscopic findings is most likely to be present in these lesions?

- a. Endometrial glands and stroma
- b. Mesothelioma
- c. Metastatic carcinoma
- d. Small capillary proliferation
- e. Caseating granulomas

4. A 47-year-old has a 10 cm fluid-filled cystic mass in the right ovary. Cytologic examination of clear fluid aspirated from the mass reveals clusters of malignant epithelial cells surrounding psammoma bodies. Which of the following neoplasms is she most likely to have?

- a. Endometrial adenocarcinoma
- b. Ovarian serous Cystadenocarcinoma
- c. Mesothelioma
- d. Ovarian mature cystic teratoma
- e. Adenocarcinoma of fallopian tube

5. A 30-year-old infertile woman has had episodic lower abdominal and pelvic pain for 2 years. A Pap smear shows only a few trichomonads and no dysplastic cells. A laparoscopy revealed the presence of several blue to red

0.2 to 0.4cm slighted raised lesions scattered on the pelvic peritoneum and broad ligaments. Which of the following is the most likely diagnosis?

- a. Metastatic adenocarcinoma
- b. Neisseria gonorrhoeae infection
- c. Endometriosis
- d. Candidiasis

6. 43-year-old woman has noted heavy menstrual periods that last 6 to 8 days, she has also noted minor intermenstrual bleeding. Pelvic examination reveals that the uterus is enlarged to twice normal size and is nodular. There are no adnexal masses. Which of the following is the most likely diagnosis?

- a. Endometrial carcinoma
- b. Leiomyomata
- c. Ectopic pregnancy
- d. Endometriosis
- e. Secondary syphilis

7. A 28-year-old woman has a cervical biopsy showing cervical intraepithelial neoplasia III

(CIN III). Infection with which of the following organisms is most likely to cause her disease?

- a. Herpes simplex virus infection
- b. Epstein-Barr virus
- c. Candida albicans
- d. Human papillomavirus
- e. Trichomonas vaginalis

8. For the past year, a 50-year-old woman has noted heavy menstrual periods lasting 7 to 9 days, with occasional minor intermenstrual bleeding. On gross inspection the uterus showed a reddish-tan fleshy mass. Microscopically the mass is highly cellular, with spindle cells having hyperchromatic nuclei and 10 to 20 mitoses per 10 high power fields. Which of the following is the most likely diagnosis?

- a. Malignant mixed müllerian tumour
- b. Adenomyosis
- c. Leiomyoma
- d. Ectopic pregnancy
- e. Leiomyosarcoma

9. 19-year-old woman has noted the increasing size and number of warty lesions on her external genitalia for the past 5 years. Microscopic examination demonstrates acanthosis along with koilocytosis. Which of the following is the most appropriate interpretation of these findings?

- a. The lesions are usually cystic
- b. Most often they occur in the endometrium
- c. There is an association with Candida infection
- d. She may develop a squamous cell carcinoma
- e. Human papillomavirus

10. A 32-year-old pregnant woman goes for a routine prenatal check at 12 weeks. An ultrasound is performed and revealed that no fetus was present, only many cystic areas within the uterus. Which of the following is the most likely diagnosis?

- a. Invasive mole
- b. Partial hydatidiform mole
- c. Leiomyomata
- d. Choriocarcinoma
- e. Complete hydatidiform mole

11. A 38-year-old woman has a cervical biopsy showing dysplasia involving the full thickness of the cervical epithelium. Which of the following is the most likely diagnosis?

- a. Cervical intraepithelial neoplasia III
- b. Severe chronic cervicitis with Herpes simplex virus
- c. Previous estrogen exposure
- d. Endocervical adenocarcinoma
- e. Extramammary Paget's disease.

12. A 39-year-old woman has had heavy prolonged menstruation for months. The uterus appears to be symmetrically enlarged. Her serum pregnancy test is negative. Which of the following microscopic findings is most likely to be present in her uterus?

- a. Atypical glands invading through the uterine wall
- b. Large avascular villi with trophoblastic proliferation
- c. Hyperchromatic and pleomorphic smooth muscle cells
- d. Extensive acute inflammation
- e. Endometrial glands and stroma in the myometrium

-13. A 15-year-old girl has had irregular menstrual cycles for 5 months. An endometrial biopsy is taken on post-ovulatory day 9 and shows proliferative phase endometrium. Which of the following is the most likely diagnosis?

- a. Adenomyosis
- b. Leiomyomata
- c. Endometrial adenocarcinoma
- d. Ovarian Thecoma
- e. Oral contraceptive use.

14. A 55-year-old woman had a simple hysterectomy performed 25 years before. Now, there is a 9cm mass involving her left ovary. Microscopic examination reveals malignant glands resembling endometrial glands. What pathologic abnormality was her hysterectomy specimen most likely to have shown?

- a. Endometriosis
- b. Adenomyosis
- c. Malignant mixed mullerian tumour
- d. Chronic endometritis
- e. Endometrial hyperplasia.

15. A 35-year-old woman has an 8cm cystic mass filled with purulent exudates involving the right adnexal region with many fibrous adhesions in

the pelvis. Microscopically, there are thin remnants of fallopian tube and ovary comprising the wall of the mass, with numerous neutrophils filling the lumen. Which of the following infectious agents is most likely to have produced these findings?

- a. Human papillomavirus
- b. Mycobacterium tuberculosis
- c. Trichomonas vaginalis
- d. Candida albicans
- e. Neisseria gonorrhoeae

16. A 62-year-old woman has abnormal uterine bleeding for the past 5 months. Endometrial biopsy shows a well-differentiated endometrial adenocarcinoma. Which of the following ovarian neoplasms is she most likely to have?

- a. Papillary serous cystadenocarcinoma
- b. Krukenberg tumour
- c. Mucinous cystadenoma
- d. Granulosa cell tumour
- e. Immature teratoma

17. A 55-year-old woman has had irregular menstrual periods for the past 9 months. She has an enlarged uterus showing a 9cm solitary, solid mass consisting of bundles of smooth muscle cells along with heterogeneous elements of pleomorphic cartilaginous cells. There are also areas with poorly differentiated gland formation. Mitotic figures are frequent. Which of the following neoplasms is she most likely to have?

- a. Leiomyosarcoma
- b. Sarcoma botryoides
- c. Malignant mixed müllerian tumour
- d. Endolymphatic stromal myosis
- e. Leiomyoma

Cases

1-A 55-year-old woman seeks medical advice for fatigue, malaise and loss of appetite. Medical evaluation reveals an ulcerating gastric mass. Abdominal C.T. image shows bilateral ovarian masses.

- What is the most likely diagnosis?
- What is the microscopic picture expected to be seen in both sites?
- Enumerate other ovarian malignancies you know
- Mention one diagnostic microscopic criteria for each type of the above mentioned.

2-A 54-year-old woman notes a 6 months history of progressive vaginal discharge with a bad odor. She also noted vaginal spotting after intercourse. Taking her history, she has smoked one packet of cigarettes per day for 20 years and took an oral contraception for 10 years. She has neither cough nor dyspnea. Speculum examination reveals a 4cm irregular, fungating grayish-white mass arising from cervix.

- What is the most likely diagnosis?
- What is your next step?
- What is the most likely responsible agent?
- What are the complications and methods of spread?

3-A 32-year-old woman has an 8cm. mass involving the right ovary. On gross inspection, the surface of the mass is smooth and not adherent to surrounding pelvic structure. It is cystic and filled with hair on sectioning. On microscopic examination there is squamous epithelium, tall columnar glandular epithelium, cartilage, and fibrous connective tissue.

- What is the most likely diagnosis?
- What are the cells of origin?
- How you classify such lesions?
- Give an account on the possible of ovarian tumors?

4- A 35 year-old woman had a firm nodule palpable on the uterus, six years ago. The nodule has slowly increased in size and now appears to be about twice the size it was when first discovered. By ultrasound scan it is solid and circumscribed. She remains asymptomatic

- What is the most likely diagnosis?
- What is the possible pathological changes and effects?
- What is the possible clinical presentation?

5-A 24-year-old woman is noted to have atypical cells on a Pap smear that are consistent with infection by human papillomavirus (HPV).

- What is the cytopathic effect of HPV?
- What are the methods of diagnosis?
- How do you grade the resulting lesion?

6-A hysterectomy specimen is performed on a 38-year-old woman for resection of a large intramural leiomyoma, and the cervix is examined histologically by the pathologist. Microscopic sections of the cervix reveal atypical dysplastic squamous epithelial cells in the lower one third of the epithelium. These cells have condensed nuclei with perinuclear clearing. No invasion into the underlying tissue is noted.

- What is the most likely pathological diagnosis for this cervical biopsy?
- What is the main risk factor?
- Where does the lesion begin?
- How could the clinician choose the biopsy site in other ladies?

7-A 41-year-old woman has noted a foul-smelling vaginal discharge for 3 weeks. On physical examination there is an exophytic 3cm mass involving the ectocervix. Pap smear shows cytologic changes consistent with squamous cell carcinoma

- What is the most likely risk factor?
- How to guard against cancer cervix?
- What are the stages of cancer cervix?
- What are the expected effects and complications?

8- A- 35-year-old female married, presents to outpatient clinic by multiple warty lesions on the vulva.

- What is the most likely diagnosis?
- What is the mode of transmission and causative agent?
- Mention two other diseases with same mode of transmission.
- What are the characteristic microscopic features of this lesion?

9-Routine cervical Pap. Smear of a 40-year-old female married 20 years ago, revealed clusters of atypical cells with pleomorphic hyperchromatic nuclei. No masses were identified during vaginal examination.

- What is your possible diagnosis?
- How to confirm this diagnosis?
- Mention the grading system of this lesion.
- What are the main risk factors?

10-A 45-year-old female presents with repeated prolonged vaginal bleeding. U/S on uterus reveals diffusely thickened endometrial lining.

- What is the next diagnostic procedure you suggest to this patient?
- What is the possible mechanism inducing bleeding?
- What is the alarming microscopic feature that would necessitate hysterectomy to this patient?
- Mention other possible causes of abnormal uterine bleeding.

11-A 32-year-old female suffers from primary infertility for 3 years. No problem was found concerning her husband. Sonography was done late in the cycle, it reveals persistent Graafian follicle. No corpus luteum was formed.

- What is the expected endometrial pattern in this cycle?
- If this condition persists for successive cycles, what might be result?
- If an endometrial biopsy is performed in the latter situation, what is the most alarming sign you may see?
- What are the other clinical applications of endometrial biopsy?

12-A 42-year-old female presents with menorrhagia, and colicky menstrual pain in the sacral and sacrococcygeal regions. Pelvic sonography reveals diffuse uterine enlargement with marked thickening of uterine wall, without any tumor mass.

- What is the most likely diagnosis?
- What is the naked-eye appearance on sectioning through the myometrium?
- What are the microscopic features?
- What are other possible sites for this disorder and its effects?

13- A 38-year-old female noted an ovoid para-umbilical nodule. She told her doctor that this nodule gets large painful and tender during menstruation.

- What is the probable diagnosis?
- What is the cause of her complain?
- Explain the most acceptable explanation for this disorder in this site.
- What are other possible sites for this disorder and their effects?

14- A 25-year-old woman is noted to have a solid and cystic right ovarian mass measuring 10 cm in diameter by ultrasound. The mass is resected surgically and on gross examination it feels doughy. Opening the cystic component reveals greasy sebaceous material, containing hair tufts.

- What is the most likely diagnosis?
- What are the microscopic features of this tumor?
- How to classify such entity?
- Enumerate other cystic tumors of the ovaries.

15- A 40-year-old female patient presents with a long history of abnormal uterine bleeding. Sonography revealed asymmetrically enlarged uterus with nodular outer surface. One day, she comes to the emergency room with sudden, severe abdominal pain, vomiting and fever. She gives a history of intake of contraceptive pills.

- a. What is the possible cause of her uterine bleeding in this case?
- b. Describe the pathological changes causing this sudden evolved clinical presentation
- c. Mention other possible complications which might occur?

16-A -60-year old obese, diabetic, multiparous female presents with postmenopausal bleeding. U/S reveals a polypoid fungating mass bulging into the endometrial cavity.

- a. What is the most likely diagnosis of this mass?
- b. What is the importance of examination of cervix in hysterectomy specimen of this patient?
- c. What is the microscopic picture expected to be seen?
- d. What are the stages of this tumor?

17-A 56-year-old healthy female presents with multicentric erythematous raised lesions involving the labia majora. After being examined clinically, her doctor recommends biopsy from the lesion.

- a. What is the most likely diagnosis?
- b. What are the expected microscopic findings of this skin lesion?
- c. What is the possible underlying mechanism?
- d. What is the prognosis of this case?